

THAT WHICH IS CLAIMED:

1. A process for producing spunbond nonwoven fabric, comprising the steps of:

separately melting two or more polymeric components, at least one polymeric component including reclaimed polypropylene recovered from previously spun

5 polypropylene fiber or webs comprised of previously spun polypropylene fiber;

separately directing the two or more molten polymer components through a distribution plate configured so that the separate molten polymer components combine at a multiplicity of spinnerette orifices to form filaments containing the two or more polymer components;

10 extruding the multicomponent filaments from the spinnerette orifices into a quench chamber;

directing quench air from a first independently controllable blower into the quench chamber and into contact with the filaments to cool and solidify the filaments;

15 directing the filaments and the quench air into and through a filament attenuator and pneumatically attenuating and stretching the filaments;

directing the filaments from the attenuator into and through a filament depositing unit;

20 depositing the filaments from the depositing unit randomly upon a moving continuous air-permeable belt to form a nonwoven web of substantially continuous filaments;

applying suction from a second independently controllable blower beneath the air-permeable belt so as to draw air through the depositing unit and through the air-permeable belt; and

25 directing the web through a bonder and bonding the filaments to convert the web into a coherent nonwoven fabric.

2. The process according to Claim 1, wherein the two or more polymer components are arranged in a sheath-core cross-sectional configuration to form bicomponent filaments.

5 3. The process according to Claim 2, wherein the polymeric component including reclaimed polypropylene is present in the core.

4. The process according to Claim 3, wherein the polymeric component forming the core is formed entirely of said reclaimed polypropylene.

10 5. The process according to Claim 4, wherein the sheath is formed entirely of virgin polypropylene.

6. The process according to Claim 4, wherein the sheath is formed of a blend
15 of virgin polypropylene and reclaimed polypropylene recovered from previously spun polypropylene fiber or webs comprised of previously spun polypropylene fiber.

7. A process for producing a spunbond nonwoven fabric, comprising the steps of:

20 separately melting a first polymeric component comprising virgin polypropylene and a second polymeric component comprising reclaimed polypropylene recovered from previously spun polypropylene fiber or webs comprised of previously spun polypropylene fiber;

25 separately directing the first and second molten polymer components through a distribution plate configured so that the separate molten polymer components combine at a multiplicity of spinnerette orifices to form bicomponent filaments containing a core of the second polymer component and a surrounding sheath of the first polymer component;

extruding the bicomponent filaments from the spinnerette orifices into a quench chamber;

directing quench air from a first independently controllable blower into the quench chamber and into contact with the filaments to cool and solidify the filaments;

directing the filaments and the quench air into and through a filament attenuator and pneumatically attenuating and stretching the filaments;

5 directing the filaments from the attenuator into and through a filament depositing unit;

depositing the filaments from the depositing unit randomly upon a moving continuous air-permeable belt to form a nonwoven web of substantially continuous filaments;

10 applying suction from a second independently controllable blower beneath the air-permeable belt so as to draw air through the depositing unit and through the air-permeable belt; and

directing the web through a bonder and bonding the filaments to convert the web into a coherent nonwoven fabric.

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8. A process according to Claim 7, wherein the second polymer component has a melt flow rate at least 5 units greater than that of the first polymer component.

9. A process according to Claim 7, wherein the core is formed entirely of
20 said reclaimed polypropylene.

10. A process for producing a spunbond nonwoven fabric, comprising the steps of:

reclaiming polypropylene from previously spun polypropylene fiber or webs
25 comprised of previously spun polypropylene fiber;

separately melting a first polymeric component comprising virgin polypropylene and a second polymeric component comprising the reclaimed polypropylene;

separately directing the first and second molten polymer components through a distribution system configured so that the separate molten polymer components combine
30 at a multiplicity of spinnerette orifices to form bicomponent filaments containing a core

of the second polymer component and a surrounding sheath of the first polymer component;

extruding the bicomponent filaments from the spinnerette orifices into a quench chamber;

5 directing quench air into the quench chamber and into contact with the filaments to cool and solidify the filaments;

directing the filaments and the quench air into and through a filament attenuator and pneumatically attenuating and stretching the filaments;

10 directing the filaments from the attenuator into and through a filament depositing unit;

depositing the filaments from the depositing unit randomly upon a moving continuous air-permeable belt to form a nonwoven web of substantially continuous filaments; and

15 directing the web through a bonder and bonding the filaments to convert the web into a coherent nonwoven fabric.

11. A spunbond nonwoven fabric produced by the process of Claim 1.

20 12. A spunbond nonwoven fabric produced by the process of Claim 7.

13. A spunbond nonwoven fabric produced by the process of Claim 10.

14. A spunbond nonwoven fabric which includes substantially continuous multicomponent filaments having at least two different polymer components occupying
25 different areas within the filament cross section, and wherein one of the polymer components comprises reclaimed polypropylene recovered from previously spun polypropylene fiber or webs comprised of previously spun polypropylene fiber, the fabric exhibiting superior formation as indicated by a coefficient of variability for air permeability of less than about 7%.

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15. A fabric according to claim 14, wherein the reclaimed polypropylene comprises at least 25 percent by weight of the filament.

16. A fabric according to claim 14, wherein said one polymer component is
5 formed entirely of said reclaimed polypropylene.

17. A fabric according to claim 14, wherein at least one of the other polymer components has a melt flow rate at least 5 units lower than that of the reclaimed polypropylene.
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18. A fabric according to claim 14, wherein at least one of the other components is formed entirely of virgin polypropylene.

19. A fabric according to claim 14, wherein the multicomponent filaments are
15 sheath/core bicomponent filaments, and the reclaimed polypropylene is present in the core component and the virgin polypropylene is present in the sheath component.

20. A spunbond nonwoven fabric which includes substantially continuous bicomponent filaments, the bicomponent filaments having two different polypropylene polymer components within the filament cross section arranged to form a core component and a sheath component surrounding the core component, the sheath component including virgin polypropylene, the core component including reclaimed polypropylene recovered from previously spun polypropylene fiber or webs comprised of previously spun polypropylene fiber and having a melt flow rate at least 5 units greater than that of
25 the sheath component, and the fabric exhibiting superior formation as indicated by a coefficient of variability for air permeability of less than about 7%.

21. A fabric according to claim 20, wherein at least 25 percent by weight of the bicomponent filament is comprised of said reclaimed polypropylene.

22. A fabric according to claim 20, wherein at least 50 percent by weight of the bicomponent filament is comprised of said reclaimed polypropylene.

5 23. A fabric according to claim 20, wherein the core component is formed from 100% reclaimed polypropylene recovered from previously spun polypropylene fiber or webs comprised of previously spun polypropylene fiber.

10 24. A fabric according to claim 20, wherein the sheath component is formed from a blend of virgin polypropylene with reclaimed polypropylene recovered from previously spun polypropylene fiber or webs comprised of previously spun polypropylene fiber.

15 25. A fabric according to claim 20, which additionally includes substantially continuous monocomponent filaments.

26. A fabric according to claim 25, wherein said monocomponent filaments include filaments formed entirely of virgin polypropylene.

20 27. An adult incontinence garment comprising a fabric according to claim 20.

28. A baby diaper comprising a fabric according to claim 20.